

Appl. No. 10/668,819

Amdt. Dated April 28, 2005

Response to Office Action dated April 8, 2005

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the above-identified application:

Claim 1 (previously presented): A valve assembly, comprising:

a valve body having at least a fluid inlet and a fluid outlet, at least one of the valve body fluid inlet and fluid outlet defining a cross sectional flow area;

a plug disposed within the valve body, the plug having at least an outer surface and a flow passage extending therethrough, the plug selectively moveable between (i) an open position, in which the flow passage is in fluid communication with the valve body fluid inlet and fluid outlet, and (ii) a closed position, in which the flow passage is not in fluid communication with the valve body fluid inlet and fluid outlet; and

a segment seal assembly coupled to the plug, the segment seal assembly including:

a main body having a first side, a second side, and an opening extending therebetween, the segment seal first side disposed proximate the plug outer surface, a seal gland formed in the main body first side and surrounding the main body opening, a seal disposed within the seal gland and in contact with the plug outer surface, whereby a sealed vent region is formed between the main body first side and the plug outer surface,

wherein the sealed vent region has a cross sectional area that is less than the defined cross sectional flow area.

Claim 2 (currently amended): The valve assembly of Claim 1, further comprising:

a backup ring disposed at least partially within the seal gland ~~and coupled to~~ along with the seal.

Claim 3 (currently amended): The valve assembly of Claim ~~[[1]]~~ 8, further comprising:

a spring disposed within at least a portion of the sealed vent region, the spring configured to bias the segment seal main body away from the plug outer surface.

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Claim 4 (original): The valve assembly of Claim 1, further comprising:

an actuator assembly mounted on the valve body and coupled to the plug, the actuator adapted to receive one or more control signals and operable, in response thereto, to move the plug between the open and closed positions.

Claim 5 (original): The valve assembly of Claim 1, further comprising:

one or more bearing assemblies mounted within the valve body and coupled to the plug, to thereby rotationally mount the plug therein.

Claim 6 (original): The valve assembly of Claim 1, further comprising:

a plurality of engagement sections extending substantially perpendicularly away from the plug outer surface, each engagement section engaging a portion of the segment seal main body.

Claim 7 (original): The valve assembly of Claim 6, wherein:

the engagement sections form a recess; and

at least a portion of the segment seal main body is disposed within the recess.

Claim 8 (currently amended): The valve assembly of Claim 1, wherein ~~the seal is configured to bias~~ the segment seal main body is biased away from the plug outer surface.

Claim 9 (original): The valve assembly of Claim 1, wherein the segment seal main body opening is in fluid communication with the valve body inlet when the plug is in the closed position.

Claim 10 (original): The valve assembly of Claim 1, wherein the segment seal main body opening is in fluid communication with the valve body outlet when the plug is in the closed position.

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Claim 11 (previously presented): A valve for mounting within a valve body having at least an inlet, and an outlet, and wherein at least one of the valve body inlet and outlet define a cross sectional flow area, the valve comprising:

a plug adapted to be mounted within the valve body, the valve plug having at least an outer surface and a flow passage extending therethrough, when mounted in the valve body, the plug is selectively moveable between (i) an open position, in which the flow passage in fluid communication with the valve body inlet and outlet, and (ii) a closed position, in which the flow passage will not be in fluid communication with the valve body inlet and outlet; and

a segment seal coupled to the plug, the segment seal including:

a main body having a first side, a second side, and an opening extending therebetween, the segment seal first side disposed proximate the plug outer surface, a seal gland formed in the segment seal first side and surrounding the segment seal opening, and

a seal disposed within the seal gland and in contact with the plug outer surface, whereby a sealed vent region is formed between the segment seal first side and the plug outer surface,

wherein the sealed vent region has a cross sectional area that is less than the defined cross sectional flow area.

Claim 12 (currently amended): The valve of Claim 11, further comprising:

a backup ring disposed at least partially within the seal gland ~~and coupled to~~ along with the seal.

Claim 13 (currently amended): The valve of Claim ~~[[11]]~~ 16, further comprising:

a spring disposed within at least a portion of the sealed vent region, the spring configured to bias the segment seal main body away from the plug outer surface.

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Claim 14 (original): The valve of Claim 11, further comprising:

a plurality of engagement sections extending substantially perpendicularly away from the plug outer surface, each engagement section engaging a portion of the segment seal main body.

Claim 15 (original): The valve of Claim 14, wherein:

the engagement sections form a recess; and

at least a portion of the segment seal main body is disposed within the recess.

Claim 16 (currently amended): The valve of Claim 11, wherein ~~the seal is configured to bias the segment seal main body~~ is biased away from the plug outer surface.

Claim 17 (previously presented): A valve assembly, comprising:

a valve body having an inlet, and an outlet, at least one of the valve body inlet and outlet defining a cross sectional flow area;

a plug disposed within the valve body, the plug having at least an outer surface and a flow passage extending therethrough, the plug selectively moveable between (i) an open position, in which the flow passage is in fluid communication with the valve body inlet and outlet, and (ii) a closed position, in which the flow passage is not in fluid communication with the valve body inlet and outlet;

one or more bearing assemblies mounted within the valve body and coupled to the plug, to thereby rotationally mount the plug therein;

an actuator assembly mounted on the valve body and coupled to the plug, the actuator adapted to receive one or more control signals and operable, in response thereto, to move the plug between the open and closed positions; and

a segment seal assembly coupled to the plug, the segment seal assembly including:

a main body having a first side, a second side, and an opening extending

therebetween, the segment seal first side disposed proximate the plug outer surface,

a seal gland formed in the main body first side and surrounding the main body opening,

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a seal disposed within the seal gland and in contact with the plug outer surface, whereby a sealed vent region is formed between the main body first side and the plug outer surface,

wherein the sealed vent region has a cross sectional area that is less than the defined cross sectional flow area.

Claim 18 (currently amended): The valve assembly of Claim 17, further comprising:

a spring disposed within at least a portion of the sealed vent region, the spring configured to bias the segment seal main body away from the plug outer surface.

Claim 19 (currently amended): The valve assembly of Claim 17, further comprising:

a plurality of engagement sections extending substantially perpendicularly away from the plug outer surface, each engagement section engaging a portion of the segment seal main body.

Claim 20 (currently amended): The valve assembly of Claim [[6]] 19, wherein:

the engagement sections form a recess; and

at least a portion of the segment seal main body is disposed within the recess.